

CHICAGO AND NORTH WESTERN
RAILROAD STONE CULVERT
Railroad Milepost 514.23
Keeline Vicinity
Niobrara County
Wyoming

HAER No. WY-53

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PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
Rocky Mountain Regional Office
National Park Service
Department of the Interior
P.O. Box 25287
Denver, Colorado 80225-0287

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**HISTORIC AMERICAN ENGINEERING RECORD
CHICAGO AND NORTH WESTERN RAILROAD STONE CULVERT**

HAER No. WY-53

I. INTRODUCTION

Location: SE/SE/NE/NW/SW Section 10, T32N-R67W
Milepost 514.23 on Chicago and North
Western Railroad Right-of-way
Niobrara County, Wyoming

USGS Quad: Lost Springs, Wyoming 7.5' (1970)

UTMS: Zone 13/509170 mE 4733980 mN

**Date of
Construction:** 1901

Present Owner: Chicago and North Western Transportation
Company

Present Use: Still in use as culvert

Significance: The stone culvert was constructed by the
Chicago and North Western Railroad in
1901 and is a distinctive example of
short-span stone construction using local
materials. Although alterations have
been made to the north end of the
culvert, the south end remains intact and
is the facade that is visible to the
general public from U.S. Route 18-20.

Project Statement: The stone culvert represents a safety
hazard due to structural deficiencies and
increased rail traffic. The stone
culvert will be replaced by inserting a
steel culvert and covering the old
structure with fill. The approved
mitigation plan for this structure
consists of Historic American Engineering
Record (HAER) documentation.

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II. HISTORY

The Study Area is located in the southern portion of the Powder River Basin of southcentral Wyoming in what now comprises Niobrara and Converse counties. The Powder River Basin is located north of the North Platte River and did not initially lure Euro-Americans for development or settlement. Its resources and attributes were subtle and were recognized and utilized first by the American Indian. In fact, the area became a part of the last real stronghold of the Sioux, Cheyenne, and Arapahoe and was the scene of pitched battles between the U.S. Army and the indigenous Native Americans for control of the region for the last decades of the nineteenth century.

Following a series of large scale military expeditions into the region in 1876, a treaty was drafted in which the Indians ceded the Black Hills and all lands west. Thus, by the spring of 1877, northeastern Wyoming Territory had been "cleared" for white settlement, and most of the indigenous tribes were confined to formal reservations outside of Wyoming.

The Powder River Basin was bordered on the south by the North Platte River, the waterway paralleled by the Oregon Trail. Despite the fact that thousands of emigrants passed along the North Platte River corridor in the 1840s and 1850s, their destinations continued to be the more attractive lands in California, Oregon, and the Salt Lake Valley. [1]

During the mid-1850s, the strains on the existing overland route became an important factor in stimulating the building of a transcontinental railroad. All transportation west of the Missouri River was by wagon, and both stagecoach and covered wagon travel were subject to the constant danger of Indian raids. Furthermore, the length of time involved in western emigration and freight deliveries via wagon trains was a deterrent to western development.

In 1853 a bill was passed to appropriate funds for exploring different routes for a railway to the Pacific. Surveys of five main routes and various alternatives were conducted by the Corps of Engineers between 1853 and 1856. The outbreak of the Civil War emphasized the need to link the Trans-Mississippi West with the rest of the Union and aid military mobility. The possibility of a southern alignment, which may have been the shortest and least expensive, was precluded by the secession of the southern states. [2] During

this era, the federal government had already financed a large number of railroad projects east of the Mississippi due to the dominant theme of "Manifest Destiny" that influenced governmental decisions. Therefore, as soon as the South seceded from the Union, it became possible to secure passage of the Pacific Railway Act of 1862. The railroad would link the Union to the Pacific (hence the name Union Pacific), and without the representation from the southern interests a more northerly route was assured. [3]

The Act authorized the construction of the railroad and appropriated funds for its financing. The construction was carried out by two subsidized corporations, the Union Pacific to build west from Council Bluffs, Iowa, and the Central Pacific to build east from Sacramento, California. Actual railroad construction began in earnest after the close of the Civil War. [4]

It originally seemed likely that the existing Oregon Trail route with its gentle grades would be used by the first transcontinental railroad. However, for the segment in Wyoming Territory, Chief Engineer Grenville Dodge chose a more southerly route that closely paralleled the Overland Trail, and the major towns of Cheyenne, Laramie, Rawlins, and Rock Springs were created along the mainline as the Union Pacific built through the region in 1867 and 1868. The two railroads joined at the appointed location at Promontory Point, Utah, and the famous golden spike was driven on May 10, 1869.

Ironically, Wyoming Territory's first railroad was conceived to link the continent, much like the Oregon Trail, and settlement of the intervening territory was only a secondary consideration. Thus, northeastern Wyoming Territory and the North Platte River Valley remained far from rail service and were linked only via a system of rough, time consuming north-south wagon roads. As a result, economic and political development of the region was retarded, and the population of the Wyoming Territory was concentrated in the towns along the Union Pacific Railroad.

The completion of the railroad spurred the establishment of the cattle industry south of the North Platte in the late 1860s and early 1870s. After the Treaty of 1876 removed the Native Americans from northeastern Wyoming Territory, these cattlemen expanded their operations north of the North Platte River to occupy the vast grasslands of the Powder River Basin.

Fort Fetterman, a military post created near the junction of the Bozeman Trail and the Oregon Trail in 1867, became the

center of a flurry of settlement, with numerous cattle ranches locating along the principal drainages in the area between 1877 and 1882. [5] After its abandonment by the military in 1882, Fort Fetterman became the site of Fetterman City, which was established by the local residents. When the railroad began to expand into the region, this raw frontier settlement hoped that it would build through the community; however, this did not occur, because the railroad could not guarantee clear title to land it sold on a military reservation. Instead, the railroad selected a new site several miles southeast of Fetterman City and named it Douglas.

The Fremont, Elkhorn, and Missouri Valley Railway (FE&MV) had been gradually expanding its lines across central Nebraska in the 1870s. After gold was discovered in the Black Hills and the strikes proved of lasting significance, the FE&MV built into the region by 1886. That same year, the Wyoming Central Railway, a subsidiary of the Fremont, Elkhorn, and Missouri Valley Railway, was organized in Wyoming Territory in order to "extend its railroad westward along the valley of the North Platte and Sweetwater through the counties of Albany, Carbon, Sweetwater, and Uinta, and thence to the eastern boundary of Utah Territory..." [6] The railway also stated that it would build a branch line north to Montana Territory. Railroad officials stated that the new line would be built west to connect with the Central Pacific Railroad at Corinne, Utah, to create a transcontinental route to the Pacific. [7]

The new line branched off from the existing line at Chadron, Nebraska, and ran seventy-seven miles west to the site of Douglas, Wyoming. Douglas was laid out by railroad officials in June ahead of the arrival of tracks. However, town lots were not sold until the tracks arrived at the site. Meanwhile, a temporary tent town grew up at the mouth of Antelope Creek in anticipation of the railroad's arrival. Residents of the tent town and at the site of old Fort Fetterman moved to the new site when Douglas officially opened. [8]

Although survey and grading crews had been in the field between Chadron and Douglas, the tracks did not reach Wyoming Territory until late June 1886. Other new towns were created along the line as grading and track laying continued. Over-anxious speculators started building the town of Lusk, but miscalculated the exact location of the final right-of-way, and were forced to move about three miles. Lusk and Crawford, Nebraska, thirty-five miles to the east, were officially laid out by the railroad in July. Tracks were laid by the crews at a rate of about two miles a day, with the grading crews well

ahead of the track-laying crews. The tracks reached the new Lusk townsite on July 17, 1886, and daily trains began running from Chadron to Lusk.

Meanwhile the track-laying crews pushed on rapidly toward Douglas. Railroad officials decided to make Douglas the end of tracks for that year, and they authorized the sale of town lots there for August 31. [9] In addition to the towns of Lusk and Douglas, several stations were located along the line by the railroad through what would become Niobrara and Converse counties, including Van Tassell, Node, Manville, Keeline, Shawnee, Lost Springs (two miles west of the stone culvert), Orin, and Irvine. Tracks reached Douglas by late September 1886.

The Chicago and North Western Railway Company was the force behind the railroad expansion into Wyoming. The Fremont, Elkhorn, and Missouri Valley Railway and its subsidiary, the Wyoming Central, were actually "leased lines" of the Chicago and North Western; in 1902 the lines were officially merged. [10]

The Chicago and North Western Railway Company was first organized on June 7, 1859, in Illinois and Wisconsin, with William Butler Ogden as President. As the name implies, the early goals of this railroad were to expand from Chicago to the north and to the west. Through mergers and acquisitions, the Chicago and North Western was successful in building west across Illinois to Council Bluffs, Iowa, by 1867, thus securing the lucrative contract for hauling the majority of the supplies for the building of the Union Pacific Railroad. With the assistance of John I. Blair, an independent railroad speculator who acquired strategically located but weaker railroad lines, the Chicago and North Western was able to gradually expand westward across Iowa and Nebraska to Wyoming Territory. In fact, it was Blair who originally owned the Fremont, Elkhorn, and Missouri Valley Railway and later leased it to the Chicago and North Western. [11]

The Chicago and North Western Railway, like many of its competitors during the pioneering days of railroading, realized that western expansion was imperative to inhibit other railroads from building into and effectively controlling new regions. From 1881 to 1887, the number of miles of railroad track in operation in the United States nearly doubled. The Chicago and North Western undoubtedly envisioned building a transcontinental route by connecting with existing western lines, such as the Oregon Pacific or the Central Pacific. As a result, the competing railroads built through

long stretches of generally unsettled land, luring emigrants to the region and creating towns along the line to make the operation profitable. Some coal deposits were known to exist along the new Chicago and North Western line in Wyoming Territory, such as at Glenrock, and others were found during extensive surveys of the line. For example, the Lost Spring coal fields (now abandoned) were serviced by a short branch line built from the mainline. [12]

The Chicago and North Western continued to extend its lines westward along the North Platte River Valley, the most favorable route from an engineering standpoint as well as for future settlement and exploitation of the region along the mainline. In 1887, the Wyoming Central expanded westward from Douglas up the North Platte River Valley for a distance of twenty nine miles to Deer Creek, and the new town of Glenrock was established. The following year, the Wyoming Central built an additional 24.7 miles of track up the North Platte to the site of Casper.

In June 1887, Marvin Hughitt became the President of the Chicago and North Western Railway. To his contemporaries, Hughitt became to the Chicago and North Western what James J. Hill was to the Northern Pacific and Collis P. Huntington was to the Southern Pacific. He served as its president from 1887 to 1910, during which time he operated a "one man road." From 1910 until 1925, he continued to serve as Chairman of the Board and thus effectively retained control of the railroad for a period of thirty-eight years. [13]

Hughitt entered the presidency at a critical time for the railroads. First, the Interstate Commerce Act of 1887 established "just and reasonable" rates for interstate rail carriers. Although this law ultimately proved difficult to enforce, the initial reaction of the railroads was pessimistic, and expansion programs were modified or postponed. [14] Coupled with the Financial Panic of 1893, this caused the Chicago and North Western Railway to curtail track expansion in Wyoming until the early twentieth century. The sentiments of President Hughitt at this time are summed up by his statement to "...stick to our knitting, [and] develop this railroad in its present territory." [15]

After a period of financial retrenchment, the Chicago and North Western expanded 148 miles west from Casper to Shoshoni and Riverton in 1905, taking advantage of the opening of 1,410,000 acres of the Wind River Indian Reservation to settlement. The line was extended to Lander in 1906. Further incentives for the track expansion were gold, copper, coal,

and livestock in the region. The rather inflated estimates of 200,000 people living on the new lands in the Wind River Valley was probably ample reason for the Chicago and North Western to build the extension. Early plans approved by the Board of Directors also show the line extending west to the Wyoming-Idaho border. These plans were later revised to a line extending to the vicinity of Yellowstone National Park via the Wind River and Dubois. However, these extensions were never built. [16]

The arrival of the railroad and the creation of the towns of Douglas, Glenrock, and other smaller railroad communities contributed to the rapid settlement and growth of the southern Powder River Basin and North Platte River Valley. The area was then part of Laramie and Albany counties, which extended the length of Wyoming from north to south. However, the county seats of Laramie and Cheyenne were located 150 to 200 miles to the south. As a result, Converse County was created on March 10, 1888, with Douglas as the county seat. The new county covered over 6,740 square miles and at this time also included Niobrara County, which did not become a separate county until 1911. [17]

Cattle and sheep ranching dominated the local economy of Converse County throughout the remainder of the nineteenth and early twentieth centuries. The oil industry became important to the economy of the region when the Big Muddy Oil Field was discovered in 1916 west of Glenrock along the south side of the North Platte River. The Continental Oil Company and the Midwest Refining Company, which operated in conjunction with the Merritt Oil Corporation, began to systematically develop the field. The Mutual Oil Company subsequently acquired the interests of the Merritt Oil Corporation and built a refinery on the west edge of Glenrock to process the Big Muddy oil. The Continental Oil Company acquired the Mutual Oil Company interests in the field and the refinery in the mid-1920s. A short time after the first refinery was built, the Midwest Refinery Company (Standard Oil Company of Indiana) built a second refinery at Glenrock. The Big Muddy Oil Field became one of the ten largest fields in Wyoming. The Chicago and North Western provided direct service to the refineries and oil field. [18]

The most intense period of settlement in Converse County occurred after the passage of the Stock Raising Homestead Act of 1916, under which a settler was able to file on 640 acres of land that had been classified as "stock-raising lands" by the Secretary of the Interior. Such lands were suitable only for grazing and the raising of forage crops, did not have any

timber, and could not be irrigated. [19] As a result, within six months after the law took effect, 712,000 acres of land in Converse County were filed upon. The railroad and the State of Wyoming also encouraged emigration to the arid, submarginal lands. The growth of the dry land farming movement coincided with the above factors to encourage settlement and farming on these unwatered lands. During this period of time, there was also increased immigration to the United States and an increasing scarcity of good cheap farming land. During the 1920s, the size of homesteads in Wyoming nearly doubled and the number of homesteads decreased, indicating a shift from cash crops to livestock raising. [20]

Agricultural prices began plummeting after 1920, and farmers preceded the rest of the nation into the Depression by using up their wartime profits on expansion instead of paying off their mortgages. [21] A series of severe droughts in 1930, 1931, 1934, 1936, and 1939 coincided with the worst years of the Great Depression. Failed homesteads were converted to grazing lands; some became part of the Thunder Basin National Grasslands, which now covers a large portion of northeastern Converse County. Finally, in 1934, the Taylor Grazing Act and two subsequent Executive Orders were passed that withdrew the remaining public domain from entry, thus virtually ending the homesteading era in this region.

Meanwhile, the railroads had continued their expansion into the region. Efficient transportation was essential to the settlement and economic development of the region. In 1913, the Chicago, Burlington, and Quincy (CB&Q) Railroad built southward through Thermopolis and the Wind River Canyon and reached Casper from the west, paralleling a long stretch of the Chicago and North Western track. It continued eastward through Glenrock and Douglas to Orin Junction, where it rejoined the CB&Q network to the south, thus forming a north-south linkage of the railroad system. In 1943, the Chicago and North Western line west of Casper was abandoned and salvaged, and their trains were run over the CB&Q line by means of a consolidation agreement. [22]

Finally in the early 1980s, in a joint effort with the Burlington Northern Railroad, the portion of the Chicago and North Western line from Shawnee on the west to Crandall on the east (including the location of the stone culvert) was reconstructed as part of a larger coal railroad line project to serve the large strip mines in the Powder River Basin. The light traffic that this portion of the line had been receiving for many years was replaced by heavy coal train traffic. [23]

III. CURRENT PHYSICAL DESCRIPTION

The stone culvert was constructed in 1901 as inscribed on the keystone. A local newspaper commented on May 2 that "a number of stone masons have been here the past week building culverts and repairing bridges for the railroad company." [24]

The stone culvert is located in an unnamed ephemeral drainage that flows into Lost Creek with low ridges to the north and south. At this point the Chicago and North Western Railroad tracks trend east-west, and the stone culvert runs nearly due north-south under the tracks and bed. U.S. Route 18-20 is located a short distance to the south in an area of fill so that the level of the highway surface is above the culvert.

The original stone culvert is sixty-seven feet long from the south to north face. It is constructed with quarried and shaped rectangular sandstone blocks with cement mortar. The south end of the culvert has flared end walls (12'3" long) that serve as retaining walls for fill. They are constructed with double rows of smaller sandstone blocks capped with larger stepped sandstone slabs. The north end of the structure was originally constructed in an identical manner. The culvert portion has a keystone arch that was originally eight feet high (now 7'8") and 6'1" wide. The interior is lined with mortared sandstone blocks that retain the arch shape throughout. The floor is flat and was originally lined with sandstone blocks. However, the blocks were covered with poured concrete sometime since 1979. Minor repairs have been made to the interior walls that are cracking and eroded. Some of the sandstone has fallen or sloughed off and disintegrates at the touch.

In the early 1980s, the north end of the culvert was totally reconstructed with a rectangular-shaped box of poured concrete that increased the total length of the structure by 44'6". It was built onto the original north face, which appears to be still intact. The box slopes downward in a northward direction from the original opening for a distance of 24'6" then levels out for the remainder of its length. The exposed end is composed of poured concrete wing walls and a concrete cap.

IV. ENDNOTES

1. Dena S. Markoff, Cultural Resource Inventory: An Historical Overview of the Antelope Coal Field, Converse County, Wyoming (Boulder, Colorado: Report prepared by Western Cultural Resource Management, Inc., for NERCO, Inc., Portland, Oregon, 1980):14-22.
2. Garry Hogg, Union Pacific (New York: Walker and Company, 1967):18.
3. T.A. Larson, History of Wyoming (Lincoln: University of Nebraska Press, 1978):37.
4. Wesley S. Griswold, A Work of Giants (McGraw-Hill Book Company, Inc., 1962):62-75; Larson, History of Wyoming, pp. 37-38; U.S. Congress, House, "Letter from the Secretary of the Interior" (transmitting reports in relation to the Union Pacific Railroad). 43rd Cong., 1st sess., Vol. 9, House Executive Document No. 95 (Washington: U.S. Government Printing Office, 1873):6.
5. Markoff, Historical Overview of the Antelope Coal Field, pp. 36-40.
6. The Democratic Leader, Cheyenne, Wyoming, 3/20/1886.
7. The Democratic Leader, Cheyenne, Wyoming, 6/13/1886.
8. The Democratic Leader, Cheyenne, Wyoming, 1/19, 3/24, 5/11, 6/16/1886.
9. The Democratic Leader, Cheyenne, Wyoming, 7/17, 7/24, 8/13/1886.
10. Robert J. Casey and W.A.S. Douglas, Pioneer Railroad, The Story of the Chicago and North Western System (New York: McGraw-Hill Book Company, 1948):224.
11. Ibid., p. 126.
12. Douglas Kullen, Historical Background Study for the Orin to Sean Cohee Railroad Line Abandonment Converse and Natrona Counties Wyoming (Glen Ellyn, Illinois: Patrick Engineering, Inc.; report prepared for Chicago & North Western Transportation Company, Chicago, Illinois, 1990) pp. 10, 19-20.

13. Casey and Douglas, Pioneer Railroad, pp. 137-138.
14. Richard C. Overton, Burlington Route: A History of the Burlington Lines. (New York: Alfred A. Knopf, 1965): 204-214.
15. E. M. Lewis, Chicago and North Western RY. and the Projected West Coast Extension, 1904-1906 (MSS #914, typed manuscript dated 1964; Historic Research and Publications Unit, Division of Parks and Cultural Resources, Wyoming Department of Commerce, Cheyenne):4.
16. Ibid., p. 5.
17. Markoff, Historical Overview of the Antelope Coal Field, p. 44.
18. Paul Biggs and Ralph H. Espach, Petroleum and Natural Gas Fields in Wyoming. U.S. Bureau of Mines Bulletin No. 582 (Washington: U.S. Government Printing Office, 1960):29-32; Ralph H. Espach and H. Dale Nichols, Petroleum and Natural-Gas Fields in Wyoming. U.S. Bureau of Mines Bulletin No. 418 (Washington: U.S. Government Printing Office, 1941):14; D.W. Greenburg, "Converse County's Magnificent Resources," Midwest Review 7 (August 1926) No. 8: 50-52.
19. Wyoming State Planning Board, Public Domain in Wyoming (Cheyenne: Wyoming State Planning Board, 1938):118.
20. Janet LeCompte and Jane L. Anderson, History of Northern Campbell County and the Rawhide Mine Permit Area, Wyoming (Longmont, Colorado: Pioneer Archaeological Consultants; report prepared for Department of Environmental Quality, Land Quality Division, Cheyenne, Wyoming, 1982):D-2-132-33.
21. James C. Olsen, History of Nebraska (Lincoln: University of Nebraska Press, 1955):296.
22. Kullen, Historical Background Study, p. 2; Larson, History of Wyoming, pp. 340, 483.
23. Idem; Letter dated April 14, 1980, from William E. Loftus, Associate Administrator for Federal Assistance, Department of Transportation, Federal Railroad Administration, Washington, D.C., to Jan L. Wilson, Director, Wyoming Recreation Commission, Cheyenne, Wyoming.

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24. Converse County Herald, Lusk, Wyoming, 5/2/1901. Note:
According to Jack Mullen of the Chicago and North Western
Transportation Company, Chicago, Illinois, the railroad no
longer retains any historical records or plans concerning the
stone culvert at milepost 514.23. A Historical Resource
Report was written in 1980 by Madison Madison International of
Cleveland, Ohio, concerning several keystone arch stone
culverts between Van Tassell and Shawnee, Wyoming, and the
Lusk Water Tower. However, no copies of that report have been
retained or could be located by the Chicago and North Western
Transportation Company, Madison Madison International, or the
Wyoming SHPO.

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